**Number of biogas plants**

*17. SHRI SURESH PACHOURI: Will the Minister of ENERGY be pleased to state:

(a) what is the total number of biogas plants installed and in operation in each State and Union Territory since their inception;

(b) whether any major improvements in design and technology have been effected during the last five years; and

(c) what is the equivalent of fuelwood saved annually due to these biogas plants and what are the Government's plans for increasing the present number, especially large community plants for villages which also offer a considerable employment potential?

THE MINISTER OF ENERGY (SHRI VASANT SATHE): (a) About 8.4 lakh family based biogas plants have been set up till end March, 1987, out of which 7.3 lakh biogas plants have been set up under the National Project for Biogas Development (NPBD) during 1981-82 to 1986-87. Besides, 264 community and institutional biogas plants have been set up under a separate scheme since 1979. State-wise details are given in Statements-I and II (*See* below).

Evaluation survey study of family based biogas plants conducted in 1983/1984 by five independent agencies indicated that on an all-India average basis 84 percent of the plants installed were in operation at a given time. Up-to-date State-wise surveys are being conducted.

(b) Research and Development work is in progress with the objective of improving the efficiency of existing biogas systems and develop processes and plant designs using alternate feed materials like water hyacinth, night-soil, industrial effluents, etc. As a result, during the last three years, new plant designs have been developed using alternate materials of construction like angle iron and plastic frame for digester, fibre, glass reinforced plastic, ferro-cement, etc. The old designs have been further optimised with respect to cost and efficiency and new models have been developed which are comparatively cheaper. Thus, five new and cheaper models have already been adopted for extension under National Project for Biogas Development (NPBD). Pilot plants have also been developed and are under field trials to work on alternate feed materials like water hyacinth, industrial effluents, night-soil, etc. More efficient biological processes are also under investigation.

(c) Biogas plants installed so far are estimated to be already saving about 30 lakh tonnes of fuelwood equivalent annually valued at more than Rs. 120 crores per year. In addition, they are producing enriched fertiliser valued at Rs. 119 crores per year.

A target of setting up of 1.20 lakh plants have been fixed under NPBD for 1987-88 within the budget allocation for the project. The NPBD provides for training, central subsidy, turn-key job fee, repair charges, field demonstrations on utility of manure, promotion of biogas plants linked with sanitary latrines and new models, Regional Biogas Development and Training Centres, etc. Under the programme of setting up of community and institutional biogas plants, 250 more plants have been sanctioned. Larger number of plants can be installed if more funds are allocated.

**Statement-I**

*State-wise number of (family type) biogas plants set up during 1974-75 to 1986-87*

| S. No. | State/U.T. | No. of plants set up in defferent years | | |
|---|---|---|---|---|
| | | 1974-75 to 1980-81 | 1981-82 to 1986-87 | Total upto 31-3-1987 |
| 1 | Andhra Pradesh | 2854 | 67963 | 70817 |
| 2 | Assam | 75 | 2627 | 2702 |
| 3 | Bihar | 9826 | 39134 | 48960 |
| 4 | Gujarat | 9185 | 50719 | 59904 |
| 5 | Haryana | 10277 | 12599 | 22876 |
| 6 | Himachal Pradesh | ... | 9030 | 9030 |
| 7 | Karnataka | 7799 | 39255 | 47054 |
| 8 | Kerala | 1587 | 13661 | 15248 |
| 9 | Madhya Pradesh | 3652 | 25166 | 28818 |
| 10 | Maharashtra | 11933 | 206237 | 218170 |
| 11 | Orissa | 622 | 15742 | 16374 |
| 12 | Punjab | 5612 | 9254 | 14866 |
| 13 | Rajasthan | 409 | 23543 | 23952 |
| 14 | Tamil Nadu | 6565 | 72853 | 79418 |
| 15 | Uttar Pradesh | 27883 | 128794 | 156577 |
| 16 | West Bengal | 2413 | 15693 | 18106 |
| 17 | Others | 512 | 2705 | 3226 |
| | TOTAL | 101213 | 734235 | 836198 |

**Statement-II**

*State-wise list of completed community and Institutional Biogas Plants during 1979-80 to 1986-87*

| S.No. | State | Community Plants | Institutional Plants | Total |
|---|---|---|---|---|
| 1 | Andhra Pradesh | 21 | 24 | 45 |
| 2 | Assam | .. | 1 | 1 |
| 3 | Bihar | 6 | .. | 6 |
| 4 | Delhi | 1 | .. | 1 |
| 5 | Gujarat | 16 | 6 | 22 |
| 6 | Haryana | 2 | 4 | 6 |
| 7 | Himachal Pradesh | .. | 1 | 1 |
| 8 | Karnataka | 2 | .. | 2 |
| 9 | Kerala | .. | 2 | 2 |
| 10 | Madhya Pradesh | 17 | 17 | 34 |
| 11 | Maharashtra | 2 | 26 | 28 |
| 12 | Orissa | 4 | 3 | 7 |
| 13 | Pondicherry | .. | 1 | 1 |
| 14 | Punjab | 28 | 4 | 32 |
| 15 | Rajasthan | 5 | 17 | 22 |
| 16 | Tamil Nadu | 2 | 2 | 4 |
| 17 | Uttar Pradesh | 32 | 16 | 48 |
| 18 | West Bengal | 2 | .. | 2 |
| | GRAND TOTAL | 140 | 124 | 264 |